

Claims

1. A clamping device for fixing a position of a vehicle steering column which is adjustable in length and/or inclination, comprising:
 - a first clamping plate element and a second clamping plate element with a rolling body positioned in between;
 - wherein said rolling body is accommodated in a hole in a guide element which is arranged between the first clamping plate element and the second clamping plate element;
 - wherein the second clamping plate element is rotatable between a released position and a clamped position in relation to the first clamping plate element;
 - wherein the second clamping plate element comprises a clamping ramp for the rolling body;
 - wherein a surface of the first clamping plate element forms a plane, and the rolling body on the first clamping plate element rolls from the released position to the clamped position on the plane of the surface;
 - wherein the clamping ramp comprises a contour on which the rolling body rolls when the second clamping plate element is rotated between the released position and the clamped position in relation to the first clamping plate element; and
 - wherein the contour changes from the released position to the clamped position such that when the second clamping plate element is rotated between the released position and the clamped position in relation to the first clamping plate element a space between the first and the second clamping plate element is changed.
2. The clamping device of claim 1,
 - wherein the guide element comprises a control contour for a microswitch.

3. The clamping device of claim 1,
wherein on the second clamping plate element a lever adapter with a T-shaped cross section for sliding on a correspondingly formed section of an activation lever is provided, wherein the correspondingly formed section of the activation lever and the T-shaped cross section are designed such that if an axial force is applied that exceeds a threshold value, the activation lever is decoupled from the T-shaped cross section of the lever adapter.
4. The clamping device of claim 3,
wherein the guide element comprises a locking spring, and the lever adapter comprises a locking stud, wherein the locking spring and the locking stud limit rotation of the guide element and the lever adapter to a region between the released position and the clamped position, and prevent unintended snapping open of the clamping device in the clamped position, and unintended closing in the released position.
5. The clamping device of claim 1,
wherein the lever adapter is connected to the second clamping plate element, having positive fit, and the first clamping plate element is connected to the guide element, having positive fit.
6. The clamping device of claim 5,
wherein on the guide element a positioning carrier is provided for engaging a corresponding recess in the first clamping plate element to establish a connection having positive fit between the first clamping plate element and the guide element, and wherein, on the lever adapter, a driver cam for engagement in a corresponding recess is provided in the second clamping plate element so as to form a connection having positive fit between the lever adapter and the second clamping plate element.

7. The clamping device of claim 1,
wherein the first and the second clamping plate element are made from metal while the guide element and the lever adaptor are made from plastic.

8. The clamping device of claim 1,
wherein the rolling body is a ball and one clamping ramp is a spherical cap with a ramp geometry which causes a change in distance between the first and the second clamping plate element when the first and second clamping plate element are rotated between the clamped position and the released position.

9. The clamping device of claim 1, further comprising:
a tie bolt, arranged at a right angle in relation to the steering column;
wherein the steering column is guided between a first supporting arm and a second supporting arm of a fixed bracket;
wherein the tie bolt extends between the first and the second supporting arms, with the first end of the tie bolt being held by the first supporting arm;
wherein on the second end of the tie bolt, the second clamping plate element is affixed such that it is fixed in axial direction of the tie bolt;
wherein the first clamping plate element is arranged between the second clamping plate element and the second supporting arm such that the steering column is firmly held between the first and the second supporting arms if the first and the second clamping plate elements are rotated such that they are in the clamped position, and the length and/or position of the steering column between the first supporting arm and the second supporting arm are/is adjustable if the first and the second clamping plate elements are rotated such that they are in the released position.